



P53821C (CPA **small entity**) 24 April 2000

Applicant: Richard G. Hyatt, Jr.

Serial No.: 08/720,070

Filed: 27 September 1996

Examiner: BOUCHER, D.

Art Unit: 3627

For: *ELECTROMECHANICAL CYLINDER PLUG*

Document(s) filed:

- ☐ SUPPLEMENTAL AMENDMENT (responsive to Paper No. 31 dated 15 February 2000)
- ☐ Fee Transmittal and check No. 36436 (\$291) for extra claim coverage



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FEE TRANSMITTAL

Patent fees are subject to annual revision on October 1.
These are the fees effective October 1, 1997.
Small Entity payments must be supported by a small entity statement,
otherwise large entity fees must be paid. See Forms PTO/SB/09-12.
See 37 C.F.R. §§1.27 and 1.28.

Complete If Known

Application Number	08/720,070
Filing Date	27 September 1996
First Named Inventor	RICHARD G. HYATT, JR.
Examiner Name	BOUCHER, D
Group/Art Unit	3627
Attorney Docket No.	P53821C (CPA application)

TOTAL AMOUNT OF PAYMENT (\$ 291.00)

METHOD OF PAYMENT (check one)

FEE CALCULATION (continued)

1. ☐ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: 02-4943
Deposit Account Number: _____

☐ Charge Any Additional Fee Required Under 37 C.F.R. §1.16 and 1.17. ☐ Charge the Issue Fee Set in 37 C.F.R. §1.18 at the Mailing of the Notice of Allowance.

2. ☒ Payment Enclosed(CK#36436)

☒ Check ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
101	690	201	345	Utility filing fee	\$
106	310	206	155	Design filing fee	\$
107	480	207	240	Plant filing fee	\$
108	690	208	345	Reissue filing fee	\$
114	150	214	75	Provisional filing fee	\$

SUBTOTAL (1) (\$ 0.00)

2. EXTRA CLAIM FEES

	Extra Claims	Fee from below	Fee Paid
Total claims	105	-20** = 15 x 9	= 135
Independent Claims	24	-3** = 4 x 39	= 156

Multiple Dependent

** or number previously paid, if greater; For Reissues, see below

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
103	18	203	9	Claims in excess of 20
102	78	202	39	Independent claims in excess of 3
104	260	204	130	Multiple dependent claim, if not paid
109	78	209	39	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ 291.00)

3. ADDITIONAL FEES

Large Entity Fee Code	Small Entity Fee Code	Fee (\$)	Fee (\$)	Fee Description	Fee Paid
105	130	205	65	Surcharge-late filing fee or oath	\$
127	50	227	25	Surcharge-late provisional filing fee or cover sheet	\$
139	130	139	130	Non-English specification	\$
147	2,520	147	2,520	For filing a request for reexamination	\$
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	\$
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	\$
115	110	215	55	Extension for reply within first month	\$
116	380	216	190	Extension for reply within second month	\$
117	870	217	435	Extension for reply within third month	\$
118	1,360	218	680	Extension for reply within fourth month	\$
128	1,850	228	925	Extension for reply within fifth month	\$
119	300	219	150	Notice of Appeal	\$
120	300	220	150	Filing a brief in support of an appeal	\$
121	260	221	130	Request for oral hearing	\$
138	1,510	138	1,510	Petition to institute a public use proceeding	\$
140	110	240	55	Petition to revive - unavoidable	\$
141	1,210	241	605	Petition to revive - unintentional	\$
142	1,210	242	605	Utility issue fee (or reissue)	\$
143	430	243	215	Design issue fee	\$
144	580	244	290	Plant issue fee	\$
122	130	122	130	Petitions to the Commissioner	\$
123	50	123	50	Petitions related to provisional applications	\$
126	240	126	240	Submission of Information Disclosure Statement	\$
581	40	581	40	Recording each patent assignment per property (Times number of properties)	\$
146	690	246	345	Filing a submission after final rejection (37 C.F.R. §1.129(a))	\$
149	690	249	345	For each additional invention to be examined (37 C.F.R. §1.129(b))	\$

Other Fee (specify) _____

Other Fee (specify) _____

** Reduced by Basic Filing Fee Paid

SUBTOTAL (3) \$0.00

SUBMITTED BY

Complete (if applicable)

Typed or Printed Name

Robert E. Bushnell, Esq.

Reg. Number

27,774

Signature

Robert E. Bushnell

Date

24 April 2000

Deposit Account User ID

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ROBERT E. BUSHNELL

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D53821C (CPA)

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S.N. 08/720,070 / extra claim coverage, Small En

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SECURITY FEATURES INCLUDED. DETAILS ON BACK.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

RICHARD G. HYATT Jr.

Serial No.: 08/720,070 (CPA application) Examiner: BOUCHER, D.

Filed: 27 September 1996 Art Unit: 3627

For: ELECTROMECHANICAL CYLINDER PLUG

SUPPLEMENTAL AMENDMENT

Assistant Commissioner
for Patents
Washington, D.C. 20231

Sir:

Supplemental to Applicant's earlier Amendment filed on the 16th of March 2000 in response to the Examiner's request set forth in Paper No. 31 dated on the 15th of February 2000, and in further response to the premature Office action dated 17 August 1999 (Paper No. 25), entry of the following amendments, re-consideration and re-examination are respectfully requested.

Folio: P53821C
Date: 04/24/00
I.D.: REB/kf/na

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IN THE SPECIFICATION

Please enter the following amendments:

Page 10, line 4, after "101" insert --sometimes called a barrel,--.

Page 12, line 11, change "A", (first occurrence) to --An electromechanical locking mechanism provides a--.

IN THE CLAIMS

Please amend claims 25, 27 through 30, 32, 39, 41, 46, 50, 51, 54 through 56, 64, 65, 70, 76, 77, 85 and 89, and add claims 91 through 105, as follows:

1 25. (Four times Amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a bar interposed between said shell and said cylinder plug to reciprocate generally
7 along a radial plane between a first position engaging both said shell and said plug while obstructing
8 rotation of said cylinder plug within said recess, and a second position accommodating said

9 rotation[,];

10 said cylinder plug comprising:

11 a first base and a second base separated by an axial length of said cylinder plug from
12 said first base, said second base [bearing means for supporting] configured to support a cam;
13 and

14 an electrical operator borne by said cylinder plug and rotatable with said cylinder
15 plug, said electrical operator being electrically operable to respond to a control signal by
16 moving independently of said bar between one of a first orientation accommodating relative
17 movement between said bar and said cylinder plug and a second and different orientation
18 providing obstruction of said bar, and another of said first orientation and said second
19 orientation.

1 27. (Amended) The lock of claim 25, further comprised of a key retainer maintaining a
2 shank of a key within said cylinder plug during rotation of said cylinder plug relative to said shell.

1 28. (Twice Amended) The lock of claim 27, further comprised of a locking mechanism
2 borne by said cylinder plug, said cylinder plug being perforated by an aperture admitting reciprocal
3 travel of a key relative to said locking mechanism, and said locking mechanism obstructing
4 movement of said cylinder plug relative to said shell absent the key exhibiting a selected relation
5 with said locking mechanism.

1 29. (Twice Amended) The lock of claim 25, further comprised of a plurality of electrical
2 conductors borne by said lock to engage a circuit in a key inserted into said cylinder plug.

1 30. (Amended) The lock of claim 25, further comprised of a power source to energize said
2 electric operator, positioned to rotate with said cylinder plug relative to said shell.

1 32. (Twice Amended) The lock of claim 25, further comprised of a network of a plurality
2 of cylinder plugs including said cylinder plug, and a switching device controlling operation of said
3 network.

1 39. (Twice Amended) The lock of claim 25, further comprising:
2 a logic circuit generating said control signal in response to a comparison between a
3 code set within said logic circuit and a data signal applied to said logic circuit;
4 a conductor provided by said cylinder plug, conveying said data signal to said logic
5 circuit; and
6 said electrical operator moving [between] from said second orientation [and] to said
7 first orientation in response to said control signal.

1 41. (Amended) The lock of claim 25, further comprising:
2 a logic circuit borne by said cylinder plug, generating said control signal in response
3 to a comparison between a code set within said logic circuit and a data signal applied to said logic

4 circuit;

5 a conductor borne by said cylinder plug, conveying said data signal to said logic

6 circuit; and

7 said electrical operator moving between said second orientation and said first
8 orientation in response to said control signal.

1 46. (Twice Amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a bar borne by said plug and rotatable with said plug relative to said shell, said bar
7 being interposed between said shell and said cylinder plug to reciprocate generally along a radial
8 plane between a first position engaging both said shell and said cylinder plug while obstructing
9 rotation of said cylinder plug within said recess, and a second position accommodating said rotation,
10 said cylinder plug comprising:

11 a first base and a second base separated by an axial length of said plug from said first
12 base, said second base bearing means for supporting a cam; and

13 an electrical operator being electrically operable to respond to an electrical control
14 signal by [moving] obstructing movement of said bar between said first position and said second
15 position in response to a first state of said control signal and by moving within a second and different

16 plane not coextensive with said radial plane in response to application of said control signal to
17 accommodate said movement of said bar in response to a second and different state of said control
18 signal.

1 50. (Amended) The lock of claim 46, further comprised of a plurality of electrical
2 conductors borne by said lock to engage a circuit in a key inserted into said cylinder plug.

1 51. (Amended) The lock of claim 46, further comprised of a power source energizing said
2 electric operator to move during said second and different state of said control signal, positioned to
3 rotate with said cylinder plug relative to said shell.

1 54. (Amended) The lock of claim 46, further comprised of:
2 said cylinder plug containing a keyway;
3 a memory borne by said cylinder plug and storing a code; and
4 a logic circuit comprising a memory storing a code, said circuit being borne by said
5 cylinder plug and generating said control signal in dependence upon correspondence between said
6 code and data borne by a key insertable within said keyway.

1 55. (Amended) The lock of claim [53] 25, further comprised of:

2 said cylinder plug containing a keyway;
3 a memory borne by said cylinder plug and storing a code; and

4 a logic circuit comprising a memory storing a code, said circuit being borne by said
5 cylinder plug and generating said control signal in dependence upon [said switching device and]
6 correspondence between said code and data borne by a key insertable within said keyway.

1 56. (Twice Amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a plug rotatable around said longitudinal axis while resident within said hollow
5 recess;

6 an elongate member interposed between said shell and said plug to travel generally
7 along a radial direction between a first position engaging both said shell and said plug while
8 obstructing rotation of said plug within said recess, and a second position accommodating said
9 rotation;

10 said plug comprising:

11 a first base perforated by an aperture, and a second base separated by an axial
12 length of said plug from said first base, said second base bearing means for supporting a
13 cam;

14 a logic circuit borne by said plug and rotatable with said plug, conveying said
15 data signal between said aperture to said logic circuit; and

16 an electrical operator responding to said control signals by moving in a second
17 direction not aligned with said radial direction between one of a first orientation obstructing

18 said travel and relative operable movement between said shell and said plug while said
19 electrical operator is contained wholly within said plug, and a second and different
20 orientation accommodating said travel and said relative operable movement between said
21 shell and said plug, and another of said first orientation and said second orientation.

1 64. (Amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a bar interposed between said shell and said cylinder plug to travel generally along
9 a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation;

11 a logic circuit generating an electrical control signal in response to a comparison
12 between a code set within said logic circuit and a data signal applied to said logic circuit;

13 an electrical conductor provided by said plug, conveying said data signal to said logic
14 circuit; and

15 an electrical operator borne by said cylinder plug and rotatable with said plug, said
16 electrical operator being electrically operable to respond to said control signal by moving

17 independently of said travel by said bar, between one of a first orientation providing obstruction of
18 said travel and a second and different accommodating said travel, and another of said first orientation
19 and said second orientation.

1 65. (Amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a bar interposed between said shell and said cylinder plug to travel generally along
9 a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation;

11 a logic circuit generating a control signal in response to a comparison between a code
12 set within said logic circuit and a data signal applied to said logic circuit;

13 an electrical conductor provided by said plug, conveying said data signal to said logic
14 circuit; and

15 an electrical operator comprising an armature, said armature being borne by said
16 cylinder plug and rotating around said longitudinal axis with said plug, said electrical operator being
17 electrically operable to respond to said control signal by moving independently of said travel.

18 between one of a first orientation providing obstruction of said travel and a second and different
19 orientation accommodating said travel, and another of said first orientation and said second
20 orientation.

1 70. (Amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a bar interposed between said shell and said cylinder plug to travel generally along
9 a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation;

11 a logical circuit generating said control signal in response to a comparison between
12 a code set within said logic circuit and a data signal applied to said logic circuit;

13 an electrical conductor provided by said plug, conveying said data signal to said logic
14 circuit; and

15 an electrical operator borne by said cylinder plug and rotatable with said plug, said
16 electrical operator being electrically operable to respond to an electrical control signal applied to said
17 electrical operator by moving along a geometrical construct other than to said radial plane between

18 one of a first orientation providing obstruction of said travel and a second and different orientation
19 accommodating said travel, and another of said first orientation and said second orientation.

1 76. (Amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a logic circuit generating said control signal in response to a comparison between a
9 code set within said logic circuit and a data signal applied to said logic circuit;

10 an electrical conductor provided by said plug, conveying said data signal to said logic
11 circuit;

12 an elongate bar exhibiting a greatest longitudinal dimension along a second axis that
13 extends transversely to said first base and to said second base, said bar being interposed between said
14 shell and said cylinder plug to travel generally along a radial axis that is transverse to said second
15 axis, between a first position engaging both said shell and said plug while obstructing rotation of said
16 cylinder plug within said recess, and a second position accommodating said rotation; and

17 an electrical operator borne by said cylinder plug and rotatable with said plug, said
18 electrical operator being electrically operable to respond to said control signal by moving along said

19 radial axis between one of a first orientation providing obstruction of said travel and a second and
20 different orientation accommodating said travel, and another of said first orientation and said second
21 orientation.

1 77. (Amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a logic circuit generating said control signal in response to a comparison between a
9 code set within said logic circuit and a data signal applied to said logic circuit;

10 an electrical conductor provided by said plug, conveying said data signal to said logic
11 circuit;

12 an elongate bar exhibiting a greatest longitudinal dimension along a second axis that
13 extends transversely to said first base and to said second base, said bar being interposed between said
14 shell and said cylinder plug to travel generally along a radial axis that is radial to said cylinder plug
15 and transverse to said second axis, between a first position engaging both said shell and said plug
16 while obstructing rotation of said cylinder plug within said recess, and a second position
17 accommodating said rotation; and

18 an electrical operator borne by said cylinder plug and rotatable with said plug, said
19 electrical operator being electrically operable to respond to a control signal by moving between one
20 of a first orientation providing obstruction of said travel and a second and different orientation
21 accommodating said travel, and another of said first orientation and said second orientation.

1 85. (Amended) An electromechanical lock cylinder, comprising:

2 an outer shell having a bore formed therein and a cavity extending from the bore into
3 the shell;

4 a barrel disposed within the bore in the shell and being rotatable relative thereto;

5 a side bar cooperating between the shell and the barrel for selectively permitting and
6 blocking rotation of the barrel with respect to the shell, the side bar having a first portion engaging
7 the barrel and a second portion removably received in the cavity in the shell, the side bar being
8 movable relative to the barrel;

9 wherein at least one electromechanical locking member is disposed within the barrel
10 and is positionable in a barrel blocking position [which blocks] blocking rotation of the barrel with
11 respect to the shell, and also is positionable in a non-barrel blocking position [which permits]
12 blocking the side bar to be moved relative to the cavity in the shell to rotate the barrel with respect
13 to the shell;

14 an electronically powered drive mechanism located within the barrel and cooperating
15 with the electromechanical locking member to selectively move the locking member from the barrel
16 blocking position to the non-barrel blocking position in which the side bar moves out of the cavity

17 and engages the locking member [to rotate the barrel and operate the lock]; and
18 control means for activating the electronically powered drive mechanism in response
19 to an authorized attempt to operate the lock cylinder.

1 89. (Amended) A rotatable lock barrel for insertion into a lock cylinder having a bore
2 formed therein, the barrel comprising:

3 an elongated, generally cylindrically shaped barrel member having an exterior configured
4 for receipt in a bore of a lock cylinder and an interior containing an electromechanical locking
5 member, the barrel member having a recess formed therein;

6 wherein the locking member is disposed in the recess of the barrel member and is
7 substantially entirely contained within the barrel member, the locking member including a groove
8 and the locking member being movable to a position in which the groove of the locking [members]
9 member is [aligned] placed in an alignment;

10 the recess in said barrel member being configured to receive at least a portion of a movable
11 side bar of a lock cylinder to permit the side bar to move into and out of engagement with the groove
12 of the locking member for selectively permitting and blocking rotation of the barrel member with
13 respect to a lock cylinder when positioned therein;

14 an electronically powered drive mechanism located within the barrel member for moving the
15 electromechanical locking member to a position in which the groove of the locking member is
16 [aligned] in said alignment.

1 --91. A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base perforated by a keyway and a second base
6 separated by an axial length of said cylinder plug from said first base, said second base disposed to
7 support a cam;

8 a bar interposed between said shell and said cylinder plug to reciprocate generally
9 along a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation;

11 a locking mechanism borne by and rotating with said cylinder plug, said locking
12 mechanism being interposed between said cylinder plug and said bar, and exhibiting a first
13 disposition hindering said reciprocation and, in response to insertion of a key in physical
14 conformance to said locking mechanism, exhibiting a second and different disposition
15 accommodating said reciprocation; and

16 an electrical operator borne by said cylinder plug and rotatable with said cylinder
17 plug, said electrical operator being electrically operable to respond to a control signal by moving
18 independently of said bar between a first orientation providing obstruction of said reciprocation by
19 said bar and a second and different orientation removing said obstruction.

1 --92. A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a bar interposed between said shell and said cylinder plug to extend generally along
7 a radial plane between a first state engaging both said shell and said plug while obstructing rotation
8 of said cylinder plug within said recess, and a second state accommodating said rotation;

9 said cylinder plug comprising:

10 a first base and a second base separated by an axial length of said cylinder plug from
11 said first base, said second base configured to support a cam; and

12 an electrical operator comprising an armature borne by said cylinder plug and
13 rotatable with said cylinder plug, said electrical operator being electrically operable to
14 respond to a control signal by moving said armature independently of said bar, between one
15 of a first orientation providing obstruction of said rotation during said first state and a second
16 orientation accommodating independent relative movement between said bar and said
17 cylinder plug, and another of said first orientation and said second orientation.

1 --93. The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position between said

5 shell and said cylinder plug, said armature obstructing said rotation absent said conduction,
6 accommodating said rotation during said conduction, and accommodating said rotation until said
7 rotation returns said armature to said rest position after termination of said conduction.

1 --94. The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said
5 exterior surface extending between said shell and said cylinder plug while said cylinder plug is in
6 alignment with said shell in a locked condition, said armature obstructing said rotation absent said
7 conduction, accommodating said rotation during said conduction by withdrawing from said shell and
8 wholly into said cylinder plug, accommodating said rotation until said rotation returns said armature
9 to said rest position after termination of said conduction, and resuming said rest position when said
10 rotation restores said alignment.

1 --95. The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position between said
5 bar and said cylinder plug, said armature obstructing said rotation absent said conduction, said
6 armature accommodating said rotation during said conduction, and said armature accommodating

7 said rotation until said rotation returns said armature to said rest position after termination of said
8 conduction.

1 --96. The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said first
5 orientation while said exterior surface is interposed between said bar and said cylinder plug and
6 obstructs said rotation absent said conduction, said armature assuming said second orientation,
7 withdrawing from said interposition and accommodating said rotation during said conduction, and
8 said armature accommodating said rotation until said rotation returns said armature to said rest
9 position with said first orientation after termination of said conduction.

1 --97. The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said first
5 orientation while said exterior surface is interposed between said bar and said cylinder plug and
6 obstructs said rotation absent said conduction, said armature assuming said second orientation,
7 withdrawing from said interposition and accommodating said rotation during said conduction, and
8 said armature maintaining said second orientation and accommodating said rotation after said

9 rotation returns said armature to said rest position after termination of said conduction.

1 --98. The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said first
5 orientation while said exterior surface is interposed between said bar and said cylinder plug and
6 obstructs said rotation absent said conduction, said armature assuming said second orientation,
7 withdrawing from said interposition and accommodating said rotation during said conduction, said
8 armature maintaining said second orientation and accommodating said rotation after said rotation
9 returns said armature to said rest position after termination of said conduction, and said armature
10 resuming said first orientation during renewal of said conduction subsequent to said termination.

1 --99. The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position while in said
5 first orientation absent said conduction with a first thickness of said exterior surface interposed
6 between said bar and said cylinder plug and with said cylinder plug in alignment with said shell in
7 a locked position, said armature exhibiting said second orientation and accommodating said rotation
8 during said conduction with a second and lesser thickness of said exterior surface permitting

9 movement of said bar relative to said cylinder plug, and said armature accommodating said rotation
10 until said rotation allows said bar to reverse said relative movement and said armature to return to
11 said rest position after termination of said conduction.

1 --100. The lock of claim 92, further comprised of:

2 a logic circuit borne by said cylinder plug, generating said control signal in response
3 to a comparison between a code set within said logic circuit and a data signal applied to said logic
4 circuit; and

5 said electrical operator moving between said second orientation and said first
6 orientation in response to said control signal.

1 --101. A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising:

6 a first base and a second base separated by a mass and an axial length of said cylinder
7 plug from said first base, said second base being configured to support a cam, said mass
8 comprising a main body exhibiting a major exterior circumferential surface and a cylindrical
9 sector exhibiting a lesser and minor exterior circumferential surface supplementing said main
10 body to endow said cylinder plug with a substantially cylindrical exterior shape that is

removably insertable within said hollow recess;

an electrical operator encased within said axial cylindrical sector and rotatable with said cylinder plug, said electrical operator being electrically operable to respond to a control signal by moving between one of a first orientation obstructing rotation of said cylinder plug relative to said shell and a second and different orientation accommodating said rotation, and another of said first orientation and said second orientation; and

a logic circuit encased within said axial cylindrical sector generating said control signal in response to a comparison between a code set within said logic circuit and a data signal applied to said logic circuit.

--102. A lock, comprising:

a shell containing a hollow recess defining a longitudinal axis and an interior cylindrical surface;

a cylinder plug rotatable around said longitudinal axis while resident within said hollow recess, said cylinder plug comprising:

a first base and a second base separated by a mass and an axial length of said cylinder plug from said first base, said second base bearing means for supporting a cam, said mass comprising a main body exhibiting a major exterior circumferential surface and a cylindrical sector forming a module exhibiting a lesser and minor exterior circumferential surface supplementing said main body to endow said cylinder plug with a substantially cylindrical exterior shape that is removably insertable within said hollow recess; and

12 an electrical operator encased within and borne by said axial cylindrical sector, and
13 rotatable with said cylinder plug, said electrical operator being electrically operable to
14 respond to a control signal by moving between one of a first orientation causing obstruction
15 of rotation of said cylinder plug within said shell and a second orientation accommodating
16 said rotation, and another of said first orientation and said second orientation;

17 a bar interposed between said shell and said cylinder plug, spaced-apart from said
18 electrical operator and movable independently of said electrical operator between a first position
19 obstructing said rotation and a second and different position accommodating said rotation.

1 --103. The lock cylinder of claim 85, further comprising:

2 said side bar comprises a major elongate surface that defines a plane extending
3 approximately radially relative to said barrel; and

4 said locking member moving on an axis that is approximately perpendicular to said
5 plane.

1 --104. The lock cylinder of claim 89, further comprising:

2 a side bar that travels along a plane that extends approximately radially relative to
3 said barrel; and

4 said locking member moving on an axis that is approximately perpendicular to said
5 plane.

1 --105. The process of claim 90, further comprising:

2 orienting said side bar to travel along a plane that extends approximately radially
3 relative to said electronically powered rotatable barrel when engaging said locking member; and

4 positioning said locking member to move on an axis that is approximately
5 perpendicular to said plane when said locking member is selectively moved from said barrel
6 blocking position to said non-barrel blocking position.

REMARKS

Claims 1 through 59 and 64 through 95 are pending in this application. Claims 25, 27 through 30, 32, 39, 41, 46, 50, 51, 54 through 56, 64, 65, 70, 76, 77 and 85 have been amended, and claims 91 through 95 have been newly added by this Supplemental Amendment.

The several courtesies extended by the Examiner to Applicant and Applicant's undersigned attorney during the brief Office Interview on the 17th of March 2000, are noted with appreciation. Unfortunately, Paper No. 32, the Examiner's Interview Summary is too brief to accurately reflect the substance of the interview and time did not permit modification of Paper No. 32 during the interview, in view of the Examiner's hectic schedule. The Examiner's reference to amending claims 25, 43, 46, 56, 64, 65, 70, 75, 76 and 77 "to define over Gokcebay '609" is misplaced; in fact, claims that is 43, 46 and 56 do not contain either the "borne by" or the "provided by" language. Secondly, after careful study, Applicant has determined that the proposed substitute language is in material to questions of obviousness under 35 U.S.C. §103(a) over Gokcebay '777 or over any of the other references of record. The fact remains, as previously discussed in Applicant's earlier filed responses, and has again repeated during the Office interview, Gokcebay '777 lacks the combination defined by claims 25, 43, 46, 56, 64, 65, 70 or 75 through 77. Among other features, Gokcebay lacks Applicant's combination of a "cylinder plug," bar interposed between "a shell and a cylinder plug, and an electrical operator" being electrical operable to respond to a control signal by moving space" The small solinoid 36 of Gokcebay '777 includes a spring 46 coaxily position with a pin 36, to bias the pin 38 outwardly. See column 6, lines 38-52 of Gokcebay '777. In short, the art relied

upon by the Examiner is singularly devoid of Applicant's combination of both a bar and an electrical operator serving to obstruct, in combination, the rotation of the cylinder plug within the recess provided a shell. Absent such beneficial results flowing from this distinction such as mechanical advantage, there is no basis for maintaining this rejection.

Applicant has presented claims 91 through 105 prepared in light of the discussion during the Office interview, to alternatively define the several embodiment disclosed. Independent claim 91 deletes the separate definition of the cylinder plug as comprising the first and second bases. Independent claim 92 generically defines the several species illustrated by Figs. 5A through 5F, 6, 7, 8A through 8H and 11, in order to assist the Examiner in deciding to withdraw the outstanding requirement for election of species, which Applicant continues to traverse. Applicant notes that it is the subject matter claim, and not the field of search, which determines the propriety of the search. In the instant application Gokcebay '777 most newly corresponds to the embodiment shown in the Applicant's Fig. 8H, a non-elected species. The Examiner is reminded that Paper No. 4 dated 17 September 1997 clearly states that "claims 1-3, is best understood by the Examiner, appear generic to a plurality of disclosed *patentably distinct* species" Applicant, and apparently the Examiner, continue to agree with the patentable distinctness between the several species disclosed. Accordingly, the Examiner continued reliance upon Gokcebay '777 which, at best, makes an incomplete disclosure of the embodiment of the non-elected and patentably distinct species of Fig. 8H of the Applicant's specification is therefore improper. Moreover, Gokcebay '777 is already devoid of Applicant's advantageous combination of the armature borne by the cylinder plug,

providing the instruction of movement between the bar and the cylinder plug.

Newly added depending claim 93 defines the species of Figs. 8A through 8H; newly added depending claim 94 defines the species of Fig. 8H; newly added depending claim 95 defines the species of Figs. 8A through 8H and 11; depending claim 96 defines the species of Figs. 6 and 7; depending claim 97 defines the species of Fig. 5E and 5F, among others; depending claim 98 defines the species of Figs. 5E, 5F; and depending claim 99 defines the species of Figs. 8A-8G. Depending claim 100 is generic to all of the several species while independent claims 101 and 102 alternatively define the several aspects of Applicant's patentably distinguishable embodiment illustrated by Fig. 8H. These claims were drafted in accordance with the discussion during the Office interview and I believe to be literally acceptable by the Examiner. Applicant requests consideration of these claims in view of the several amendments proposed by the Examiner during the Office interview.

Applicant repeats the request made during the Office interview for a declaration of interference, and an Office interview with the Group Director.


Depending claims 103, 104 and 105, all of which define the elected species of Figs. 8A-8G, are added to patentably distinguish the embodiment disclosed from art such as Field '307.

A fee of \$291.00 is incurred by the addition of fifteen (15) depending claims in excess of 90, and the addition of four (4) independent claim in excess of 20 filed on the 16th of March 2000 for

small entity. Applicant's check drawn to the order of Commissioner accompanies this Response. Should the check become lost, should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

In view of the foregoing amendments and remarks, all claims are deemed to be in condition for allowance. Entry of these amendments, withdrawal of the single outstanding art rejection and passage of this application to issue is respectfully requested. Should questions remain unresolved however, the Examiner is requested to telephone Applicant's undersigned attorney.

Respectfully submitted,


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